

REMARKS

Claims 1-19 are pending in this application. Claims 1, 2, 5-7, 9 and 11-19 stand rejected and claims 3, 4, 8, and 10 are objected to. Applicant wishes to thank the Examiner for the indication of allowable subject matter in claims 3, 4, 8, and 10. By this Amendment, Applicant has re-written claim 3 in independent form and the claims that previously depended from claim 1 now depend from claim 3. The amendments made to the claims do not alter the scope of these claims, nor have these amendments been made to define over the prior art. Rather, the amendments to the claims have been made for cosmetic reasons to improve the form thereof. In light of the amendments and remarks set forth below, Applicant respectfully submits that each of the pending claims is in immediate condition for allowance.

Claim 1 stands rejected under 35 U.S.C. § 102(e). Applicant respectfully traverses this rejection. Among the limitations of independent claim 1 not present in the cited reference is the temporal fluctuation of said excitation signal being reduced.

In the present invention, excitation is directly calculated and the temporal fluctuation of the energy of the excitation signal is directly reduced. Thus, the excitation signal with sufficiently reduced temporal fluctuation is applied to the input of the synthesis filter. Under normal circumstances, the excitation is calculated by multiplying signal and gain. If the gain is calculated without considering the excitation or other input signals, i.e., without using the present invention, the temporal fluctuation in the excitation signal must be reduced so that the temporal fluctuation in the signal gain product is minimized. In this case, the

temporal fluctuation refers to the fluctuation of the signal over time, particularly during the noise period. See, specification pages 15-18.

In contrast, in Jarvinen, the input signal is assumed to be a white noise signal. This white noise signal is the basis for the calculations disclosed in Jarvinen. Therefore, Jarvinen cannot reduce the temporal fluctuation in the energy of the excitation signal when the signal is a general signal.

The object of Jarvinen is to generate comfort noise in a discontinuous transmission mode. Jarvinen uses a white noise input signal having a relatively small energy fluctuation. The method of Jarvinen is effective only for signals having relatively small fluctuations in energy. Jarvinen's method is not effective for a general signal having a relatively large fluctuation in energy. Such signals having relatively large energy fluctuations include the signal in the noise period in noisy environments typified by the hustle and bustle in downtown or the inside of a running car.

As disclosed in the present specification, the energy fluctuation of excitation is smoothed by, for example, excitation signal normalization circuit 2510, smoothing circuit 1320, and excitation signal restoring circuit 2610. Since the energy fluctuation of excitation applied to the synthesis filter is smoothed, the method of the present invention is effective to signals having a relative large energy fluctuation such as those signals in the noise period.

Applicant respectfully submits that claim 1 is allowable over the cited reference. Further, Applicant has rewritten objected to claim 3 in independent

form. Therefore, claim 3 should be allowed. The remaining claims now depend from allowable claim 3. As such, all of the claims in the present application are in condition for allowance.

Applicant has responded to all of the rejections and objections recited in the Office Action. Reconsideration and a Notice of Allowance for all of the pending claims are therefore respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

If the Examiner believes an interview would be of assistance, the Examiner is welcome to contact the undersigned at the number listed below.

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Respectfully submitted,

By _____
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